81. Locating severed and cracked spots of container linings by means of radioactive isotopes. I. Fodor. *Energia és Atomtechnika*, Vol. 10, 1957, No. 11—12, pp. 603—605, 4 figs., 1 tab.

A method of location has been developed using an isotope solution, its range of application is broader and it is more expedient than methods employing an enclosed source of radiation. The substance of the method consists in injecting a solution of some radioactive isotope through the shell into the cracks and severed surfaces and then measuring the intensity of the gamma-ray radiation on the surface divided into squares of identical area. The severed spots are indicated by the intensity distribution of the gamma radiation. The location of cracks is effected by rubbing tests taken along the interior surface. The method is suitable for testing multiple-layer linings as well. Operation requires great precaution because of the free source of radiation.

FODOR, J.

Country	: Hungary
Category	: Analytical Chemistry - Analysis of inorganic substances E-2
Abs. Jour	: Referat Zhur - Khim, No 13, 1959 45572
Author	: Fodor, J.
Institut.	: Hungarian Academy of Sciences
Title	: The Rapid Determination of Phosphorus in Steel During Quality Control by the Method of Isotope Solution
Orig Pub.	: Magyar Tud Akad Kem Tud Oszt Koezl, 10, No 4, 417-424 (1958)
Abstract	: See RZhKhim, No 24, 1958, 81341.

Card: 1/1

HUNGARY/Analytic Chemistry. Analysis of Inorganic Substances.   E

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77266.

Author : Fodor, Jozsef
Inst   : Hungarian Academy of Sciences
Title   : Determination of Tungsten in Alloyed Steels by β, γ Method.

Orig Pub: Magyar tud. akad. Kem tud. oszt. közl., 1958, 9, No 4, 471.

Abstract: A new method of W determination in steel, based on the measurement of the intensity of the secondary γ radiation caused by β-rays of Tl^{204} was developed. The intensity of that β radiation proportional to the W concentration is measured with a scintillation counter at the optimum voltage. The duration of an analysis is from 100 to 300 sec.

Card   : 1/2

HUNGARY/Analytic Chemistry. Analysis of Inorganic Substances.   E

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77266.

That method is not inferior in accuracy to the
chemical method at W contents over 4%. - M. Krishto-
forl.

Card   : 2/2

72

HUNGARY/Analytical Chemistry. Analysis of Inorganic   E
          Chemistry.

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81341.

Author : Fodor J.
Inst   :—————————
Title   : Rapid Determination of Phosphorus in Steel During the
          Manufacturing Process and Employing the Method of
          Isotopic Dilution.

Orig Pub: Magyar tud. akad. kem. tud. oszt., 1958, 10,
          No 1, 83.

Abstract: Regular methods of chemical analyses are not suitable for
          the determination of P in the steel manufacture due
          to a rapid change in its concentration. The author
          proposes the method of isotopic dilution for this pur-
          pose. Isotope P^{32} is introduced into a furnace and

Card   : 1/2

HUNGARY/Analytical Chemistry. Analysis of Inorganic   E
          Chemistry.

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81341.

          samples are removed periodically for the determina-
          tion of their respective β-activities which are
          being measured with the aid of G.- M. counters.
          In the first sample the P content is determined
          also by a chemical method. This becomes a reference
          point. In the subsequent samples variations in the
          β -activity is related to the absolute content of
          P. Duration of the above determination is 5 min.
          In its accuracy this method is not any worse than
          a chemical method. Quantity of P^{32} employed is
          0.1 mcurie for 1 ton of steel. -- I. Krishtofori.

Card   : 2/2

                              33

COUNTRY	:	HUNGARY H
CATEGORY	:	Chemical Technology. Chemical Products and Their Application. Safety and Sanitation.
ABS. JOUR.	:	RZhKhim., No 17, 1959, No. 61322
AUTHOR	:	Fodor, J.; Jozsef, T.; Varga, K.
INSTITUTE	:	-
TITLE	:	Experience in the Decantamination at a Factory Employing Radioactive Dyes
ORIG. PUB.	:	Energia es Atomtechn., 1958, 11, No 6, 341-344

ABSTRACT   : Described is the decantamination of working
              quarters and instruments at a factory employing
              radioactive dyes as a coating of apparata gradu-
              ated scales. -- A. Yermakova

Card: 1/1

COUNTRY	: Hungary	H-12
CATEGORY	: Chemical Technology. Chemical Products and Their Applications--Electrochemical industries. Elec.	
ABS. JOUR.	: RZKhim., No. 16 1959, No.	57690
AUTHOR	: Czike, K. and Fodor, J.	
INST.	: Not given	
TITLE	: Heavy Water Pilot Plant	
ORIG. PUB.	: Energia es Atomtech, 11, No 7-8, 503-506 (1958)	

ABSTRACT   : A process for the production of heavy water (83.4% D_2O) from tap water and from the spent electro-lyte of an d_2O electrolysis plant is described. It has been found that the production of 1 gm D_2O of the above-indicated concentration from tap water requires 1,000 Kwh, whereas the production of the same amount of heavy water from the electrolyte requires 105 Kwh. The bibliography lists seven titles.

D. Puyshpeki

CARD: 1/1   *troplating. Galvanic cells.

149

FODOR, J.

Quick determination of the phosphorus content of steel during its production by means of isotope dilution. p. 417.

Magyar Tudomanyos Akademia. Kemiai Tudomanyok Osztalya. KOZLEMENYEI. Budapest, Hungary, Vol. 10, No. 4, 1958.

FODOR, J.

FODOR. J.; JOZEF, T.

Testing the wearability of rubber by radioisotopes. p.642.

ENERGIA ES ATOMTECHNIKA. (Energiagazdalkodasi Tudomanyos Egyesulet)
Budapest, Hungary
Vol. 11, no.9/10, Sept./Oct. 1958.

Monthly List of East European Accessions (EEAI) IC., Vol. 8, no.7, July 1959
Uncl.

ГОДОР, J.

100. Investigating the wear of rubber by means of a radio-active isotope. J. Kodon T. Jóssef, Energia és Atom-technika, Vol. 12, 1959, No. 9—10, pp. 642—643, 4 figs.

The isotope is introduced into the tread of a tyre which is then fitted onto a wheel of an automobile. The amount of isotope remaining in the tread subsequent to wear is measured from the change in radioactivity in order to establish the extent of wear. The measurement may be made without removing the tyre. For measuring wear a calibration curve must be plotted in each case because of the difficulties encountered in the calculation. The accuracy attained in laboratory tests is 0.01 mm.

FODOR, J.

Quick determination of phosphorus in molten steel by the isotope dilution method. Iozsef Fodor (Casnel Iron & Metal Factory, Budapest). *Acta Chim. Acad. Sci. Hung.* 91, 13-21(1958).—Anal. results are found 5 min. after sampling. Red P to produce 0.1 mc. P^{32} per ton (the safe max.) is added to the furnace in a steel capsule, and is evenly distributed after 6 min. Samples are cast in a special mold and read with a Geiger counter under standardized conditions giving relative values. Abs. values are found by a chem. analysis of the first sample. Toward the end P tends to return from the slag due to the increased temp. 7   Wm. R. Sheridan

PODOR, J.; VARGA, K.

Use of radioactive isotopes in checking the technology of continuous casting.
p.17

ENERGIA ES ATOMTECHNIKA. (Energiagazdalkodasi Tudomanyos Egyesulet)
Budapest, Hungary
Vol. 12, no.1, Jan. 1959

Monthly List of East European Accessions (EEAI) IC., Vol. 8, no.7, July 1959
Uncl.

Determination of the tungsten content in alloyed steels by β-γ-reflection method. I. Fodor (Csepel Iron & Metal Works, Budapest). *Acta Chim. Acad. Sci. Hung.* 19, 327-35(1959)(in English).—A rapid radiochem. method is based on the measurement of reflected γ-radiation from W with a Tl^{204} β-source. A discriminator is used to obtain a single characteristic radiation. The β-γ method is more accurate than chem. methods at W concns. of 4% or more. Values can be obtained in 3-4 min., including sampling time. The method is calibrated by using samples activated with a Ra-Be neutron source. The W content is detd. with an empirically prepd. calibration curve. G. A. Pearse, Jr.

SZOKE, LASZLO

FODOR,

MJ (JD)

Distr: 4E2c(m)

Investigation of chromium alloying by isotope dilution analysis. József Fodor, László Szoku, Tibor József, and Klára Minics. *Energia és Atomtech.* 13, 377-9(1960).—The dissoln. of Cr during the alloying of steels with Fe-Cr was investigated by using Cr^{51} as tracer, in order to establish the effect of particle size and of other parameters on the homogeneity of the finished alloy steel. As only a relative knowledge of the Cr distribution was required, the infinitely thick slab method was used. After employing different fabrication processes, such as introducing the Fe-Cr at the bottom of the vessel contg. 50 tons of molten metal, or using half-filled vessels and detg. the activity of the samples drawn from different locations by means of a scintillation counter, it was established that the Cr distribution was quite uniform. Such batch-alloying of low-C steels is feasible, because movement of the molten metal assures proper mixing. Isotope diln. analysis can be employed only if the heat content of the system is not changed noticeably during the alloying process. ·T. T.

H/008/60/013/012/006/008
B009/B057

AUTHORS: Fodor, József; Keömley, Gábor; and Maróti, Lajos

TITLE: Application of Radioisotopes in Wear Testing

PERIODICAL: Energia és Atomtechnika, 1960, Vol. 13, No. 12, pp. 563-570

TEXT: This is a synopsis of numerous publications on engine wear testing
and on progress made therein by the application of radiotracers.
Conventional measuring methods (measurement of weight loss, of changes of
dimensions, of special markings, analysis of abrasion products in
lubricating oil) are described, and their shortcomings are pointed out.
The principle of the tracer method is explained according to Guest's book
(Ref. 3), and its advantages are pointed out. The preparation of the
test specimen by alloying with radioactive metals (formula of Wissotsky-
Savelskiy, Ref. 4), by electroplating, by the insertion of tracer inserts
(Fig. according to P. Y. Dvachenko and D. Y. Nyisnvevich. Ref. 10), by
activation in the atomic pile (measurements of J. H. Deterding and
J. R. B. Calcw, Ref. 6), and by subsequent activation and analysis of the

Card 1/3

Application of Radioisotopes in Wear
Testing

H/008/60/013/012/006/008
B009/B057

abrasion products (W. W. Schultz and co-workers, Ref. 7). The measuring
setup is illustrated by a drawing of Dyachenko and Nyisnyevich (Ref. 10),
and the necessary precautions for radiation protection are recommended.
Autoradiography is applied for detecting the character of engine wear.
J. Fodor, one of the authors of the present article, published a paper on
this subject in Energia and Atomtechnika May 1959 (Ref. 8). At the Tools
Research Institute of the Soviet Academy of Sciences, the wear on tool
tips was thus traced back to the granular structure of the tips, the
refinement of which led to an increased service life of the tool tips.
The authors conclude that no general conclusions have so far been drawn
from research on wear by the tracer method. The most modern testing method
was presented in 1959 by Deterding and Calow who measured wear on piston
rings of automotive engines in road service with a scintillation counter
and recording equipment. In Hungary, joint tests were conducted on tires
by the Radioisotope Laboratory of Csepel and the Research Laboratory for
the Rubber Industry. The Csillebers research reactor, put into operation
in 1959, took care of the activation of tool tips for the Csepel
Radioisotope Laboratory and of the activation of piston rings for the
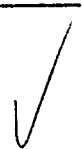
Card 2/3

Application of Radioisotopes in Wear
Testing

H/008/60/013/012/006/008
B009/B057

wear-testing Radioisotope Laboratory of the Vehicle Development Institute.
The last-mentioned institute and the Ganz-MÁVAG Works are engaged in
determining the wear characteristics of bearings with linings containing
active tin isotopes cast at the laboratory of the Institute. There are
7 figures, 1 table, and 10 references: 2 Soviet, 3 Hungarian, 2 German,
and 2 US.

ASSOCIATION: Járműfejlesztesi Intézet Radioizotóp Laboratoriuma (Vehicle
                Development Institute, Radioisotope Laboratory)

Card 3/3

H/008/60/013/012/007/008
B009/B057

AUTHORS: Fodor, Jozsef; and Jozsef, Tibor

TITLE: Determination of the Rate of Crystallization in Steel by
              Means of Radioisotopes

PERIODICAL: Energia és Atomtechnika, 1960, Vol. 13, No. 12, pp. 571-573

TEXT: The authors believe to have developed a method of determining the
rate of steel crystallization, which is better and simpler than the
methods so far applied, and is helpful in the control of the ingot casting
process. They review the conventional methods devised by T. B. King
(Ref. 1): Mathematical calculation, experimental methods: the bleeding
test (applied by B. B. Gulyayev, Ref. 2), methods applying thermocouples,
analog circuits. In their opinion, the isotope method is the most
practicable and least expensive. A. N. Morozov and co-workers (Ref. 4)
applied Fe^{59}, and drilled holes in the ingot at various places to various
depths, and measured the activity of the bore chips. The authors gave
preference to Cr^{51}, because thus the determination of local activity is

Card 1/3

Determination of the Rate of
Crystallization in Steel by Means of
Radioisotopes

H/008/60/013/012/007/008
B009/B057

only slightly affected by the scattered radiation. After the steel has filled the mold (by bottom casting), an isotope rod carrying 3 millicuries of Cr^{51} in each of the two receptacles was pushed four times into the mold at intervals of 5 minutes. The cold ingot was cut in two along its longitudinal axis, and the surface was measured in a square grid (by squares of 9 cm^2), and iso-dose curves were drawn. Instead of the too delicate scintillation counter, Geiger-Müller tubes of the type EKCO EW.3H were used, which permit high-precision measurement of the soft β-radiation of Cr^{51}. At a height of 90 cm of the ingot, isotope distribution was measured every 1.2 cm^2, which gave a much finer isotope distribution, as shown by graphs, but also indicated steps due to the shockwise dosage of the isotope. The authors established that in ingots produced by bottom casting, the flow of steel into the mold was asymmetrical, the mold was heated locally, and crystallization was also asymmetrical. This was probably the cause of shrinkage cavities in ingots cast by this method. The study of the crystallization of steel ingots is very important because under improperly chosen conditions of

Card 2/3

Determination of the Rate of
Crystallization in Steel by Means of
Radioisotopes

H/008/60/013/012/007/008
B009/B057

crystallization the ingot becomes a reject. There are 3 figures and 5
references: 2 Soviet, 2 US, and 1 Hungarian.

ASSOCIATION: Csepel Vas- és Fémmüvek Radioizotóp Laboratóriuma (Csepel
               Iron and Non-ferrous Metal Works, Radioisotope Laboratory)

Card 3/3

VARGA, K.   FODOR, J.

SURNAME, Given Names

Country: Hungary

Academic Degrees: [not given]

Affiliation:

Source: Leipzig, Isotopentechnik, No 5-6, May 1961, p. 173.

Data: "Investigations on the Carry-with Effect of Liquid Droplets in the
        Vacuum Distillation of Residual Oils."

Authors:
FODOR, J. Isotope Laboratory of the Central Material Testing Station of the
   Iron and Metal Works "Csepel";
VARGA, K. Isotope Laboratory of the Central Material-Testing Station of the
   Iron and Metal Works "Csepel";
PECELI, B. Mineral Oil Plant "Csepel";
VAJTA, L. Association of the Mineral Oil Industries of the People's Republic
   of Hungary.
   [no original language version of associations given]

55

FODOR, Jozsef

      Investigating the distribution of sulfur inclusion in steel by
means of microoautoradiography. Koh lap 95 no.6:282-285 Je
'62.

FODOR, Jozsef

Controlling phosphorus determination of steels containing
phosphorus in small quantity by means of ^{32}P radioisotope.
Koh lap 95 no.8:373-374 Ag '62.

FODOR, Jozsef; KEOMLEY, Gabor; URY, Judit

Radioisotope Laboratory for Testing Mechanical Wear of Motor Vehicles on Highways. Energia es atom 15 no.8:381-383 Ag '62.

1. Jarmufejlesztesi Intezet.

FODOR, Jozsef

Radioisotopes in metallurgical chemical analysis. Koh lap
95 no.5:228-230 My '62.

FODOR, Jozsef; GANTI, Tibor

Reaction kinetic investigation of the decomposition of diphosphopiridino-
nucleotide. Magy kem folyoir 69 no.2:63-66 F '63.

1. Budapesti Elesztogyar, Budapesti.

FODOR, Jozsef; KEOMLEY, Gabor; URY, Judit

Mechanical wear testing on the pairs of motor vehicle
component parts by means of radioisotopes. Gep 16 no. 2:
67-71 F '64.

1. Jarmufejlesztesi Intezet.

FODOR, Jozsef; URY, Judit

Wear measurement of cylindrical sleeves by radioactive isotopes.
Musz kozl MTA 34 no.3:247-253 '64.

1. Institute of Vehicle Development, Budapest.

FODOR, J.

Examination of non-metallic inclusions in steel by means of radioisotopes. Acta techn Hung 48 no. 1/2:3-22 '64.

1. Institute for the Development of Vehicles, Budapest.

L 43013-66

ACC NR: AP6031621

SOURCE CODE: HU/2505/65/026/003/0199/0205

AUTHOR: Ganti, Tibor; Fodor, Joszef; Fodor, Y.

ORG: Yeast Factory, Budapest; I. Surgical Clinic, Medical University of Budapest, Budapest (Budapesti Orvostudomanyi Egyetem, I. Sebeszeti Klinika)

TITLE: Studies on the kinetics of NAD decomposition

SOURCE: Academia scientiarum hungaricae. Acta physiologica, v. 26, no. 3, 1965, 199-205

TOPIC TAGS: yeast, chemical kinetics, aqueous solution, activation energy, plant chemistry

ABSTRACT: An attempt has been made to establish the optimal conditions of nicotine amide adenine dinucleotide (NAD) extraction from yeast, taking into account the kinetics of extraction and the decomposition of the compound. The results obtained supported the findings of LOWRY et al. (1961), concerning the rate of decomposition of NAD. The Arrhenius diagram, plotted on the basis of computed k values (decomposition rate constant of NAD) is a straight line. The temperature gradient, activation energy and frequency factor calculated from the measured data were within the expected range. The decomposition rate constant of NAD in an aqueous solution showed a deviation from the rate in the extracted yeast. The characteristic constants were: temperature gradient 2.5/10° C; activation energy 26.98 kcal/mole; frequency factor 0.59 x 10^{16}; optimal temperature 80°C; period of extraction 5 minutes. Orig. art. has: 3 figures, 3 tables and 3 formulas. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06, 07 / SUBM DATE: 18May63 / OTH REF: 008

Card 1/1   MLP

REEL

133

FISCHL, LAJOS

FODOR, J.

The End!